

NOTIFICATION APPLIANCE CIRCUIT
VOLTAGE DROP & POWER REQUIREMENTS

CKT AV10 – MEZZANINE SOUTHEAST			
DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELock STROBE 15 cd	–	0.5010	0.0000
WHEELock HORN/STROBE 15cd	–	0.0000	0.0000
WHEELock STROBE 30 cd	–	0.0300	0.0000
WHEELock HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELock STROBE 75 cd	–	0.1650	0.0000
WHEELock HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELock STROBE 110 cd	4	0.2200	0.8800
WHEELock HORN/STROBE 110 cd	–	0.3070	0.0000
WHEELock HORN	2	0.0870	0.1740
AUTOCALL BELL	4	0.0500	0.2000
AUTOCALL BELL/STROBE 75 cd	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.254

VOLTAGE DROP (VD) CALCULATIONS		WIRE SIZE	CIRCULAR MILS
VD = {(I) (D) (21.6)}/CM			
WHERE: I = CIRCUIT CURRENT			
D = CONDUCTOR LENGTH (FT) ONE WAY		12AWG	6530
21.6 = CONSTANT		14AWG	4110
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)		16AWG	2580
VD = {(1.254 A) (190FT) (21.64)}/4110 = 1.252 V		18AWG	1620
%VD = {1.252 V / 24V} X 100 = 5.217 %		20AWG	1020
REMAINING VOLTS = 22.748			

NOTIFICATION APPLIANCE CIRCUIT
VOLTAGE DROP & POWER REQUIREMENTS

CKT AV8 – MEZZANINE SOUTH			
DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELock STROBE 15 cd	–	0.5010	0.0000
WHEELock HORN/STROBE 15cd	–	0.0000	0.0000
WHEELock STROBE 30 cd	–	0.0300	0.0000
WHEELock HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELock STROBE 75 cd	–	0.1650	0.0000
WHEELock HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELock STROBE 110 cd	5	0.2200	1.1000
WHEELock HORN/STROBE 110 cd	–	0.3070	0.0000
WHEELock HORN	2	0.0870	0.1740
AUTOCALL BELL	5	0.0500	0.2500
AUTOCALL BELL/STROBE	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.524

VOLTAGE DROP (VD) CALCULATIONS		WIRE SIZE	CIRCULAR MILS
VD = {(I) (D) (21.6)}/CM			
WHERE: I = CIRCUIT CURRENT			
D = CONDUCTOR LENGTH (FT) ONE WAY		12AWG	6530
21.6 = CONSTANT		14AWG	4110
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)		16AWG	2580
VD = {(1.524 A) (170FT) (21.64)}/4110 = 1.362 V		18AWG	1620
%VD = {1.362 V / 24V} X 100 = 5.673 %		20AWG	1020
REMAINING VOLTS = 22.638			

NOTIFICATION APPLIANCE CIRCUIT
VOLTAGE DROP & POWER REQUIREMENTS

CKT AV9 – MEZZANINE SOUTHEAST			
DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELock STROBE 15 cd	–	0.5010	0.0000
WHEELock HORN/STROBE 15cd	–	0.0000	0.0000
WHEELock STROBE 30 cd	–	0.0300	0.0000
WHEELock HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELock STROBE 75 cd	–	0.1650	0.0000
WHEELock HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELock STROBE 110 cd	5	0.2200	1.1000
WHEELock HORN/STROBE 110 cd	–	0.1750	0.0000
WHEELock HORN	2	0.0870	0.1740
AUTOCALL BELL	5	0.0500	0.2500
AUTOCALL BELL/STROBE	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.524

VOLTAGE DROP (VD) CALCULATIONS		WIRE SIZE	CIRCULAR MILS
VD = {(I) (D) (21.6)}/CM			
WHERE: I = CIRCUIT CURRENT			
D = CONDUCTOR LENGTH (FT) ONE WAY		12AWG	6530
21.6 = CONSTANT		14AWG	4110
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)		16AWG	2580
VD = {(1.524 A) (190FT) (21.64)}/4110 = 1.522 V		18AWG	1620
%VD = {1.522 V / 24V} X 100 = 6.341 %		20AWG	1020
REMAINING VOLTS = 22.478			

NOTIFICATION APPLIANCE CIRCUIT
VOLTAGE DROP & POWER REQUIREMENTS

CKT AV6 – MEZZANINE NORTH			
DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELock STROBE 15 cd	–	0.5010	0.0000
WHEELock HORN/STROBE 15cd	–	0.0000	0.0000
WHEELock STROBE 30 cd	–	0.0300	0.0000
WHEELock HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELock STROBE 75 cd	–	0.1650	0.0000
WHEELock HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELock STROBE 110 cd	5	0.2200	1.1000
WHEELock HORN/STROBE 110 cd	–	0.3070	0.0000
WHEELock HORN	2	0.0870	0.1740
AUTOCALL BELL	5	0.0500	0.2500
AUTOCALL BELL/STROBE	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.5240

VOLTAGE DROP (VD) CALCULATIONS		WIRE SIZE	CIRCULAR MILS
VD = {(I) (D) (21.6)}/CM			
WHERE: I = CIRCUIT CURRENT			
D = CONDUCTOR LENGTH (FT) ONE WAY		12AWG	6530
21.6 = CONSTANT		14AWG	4110
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)		16AWG	2580
VD = {(1.524 A) (310FT) (21.64)}/4110 = 2.483 V		18AWG	1620
%VD = {2.483 V / 24V} X 100 = 10.345 %		20AWG	1020
REMAINING VOLTS = 21.517			

NOTIFICATION APPLIANCE CIRCUIT
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CKT AV7 – MEZZANINE NORTH			
DESCRIPTION	QTY	CURRENT PER ITEM (AMPS)	TOTAL CURRENT PER ITEM
WHEELock STROBE 15 cd	–	0.5010	0.0000
WHEELock HORN/STROBE 15cd	–	0.0000	0.0000
WHEELock STROBE 30 cd	–	0.0300	0.0000
WHEELock HORN/STROBE 30 cd	–	0.0450	0.0000
WHEELock STROBE 75 cd	–	0.1650	0.0000
WHEELock HORN/STROBE 75 cd	–	0.1100	0.0000
WHEELock STROBE 110 cd	5	0.2200	1.1000
WHEELock HORN/STROBE 110 cd	–	0.3070	0.0000
WHEELock HORN	2	0.0870	0.1740
AUTOCALL BELL	5	0.0500	0.2500
AUTOCALL BELL/STROBE	–	0.2150	0.0000
TOTAL NOTIFICATION APPLIANCES CURRENT			1.5240

VOLTAGE DROP (VD) CALCULATIONS		WIRE SIZE	CIRCULAR MILS
VD = {(I) (D) (21.6)}/CM			
WHERE: I = CIRCUIT CURRENT			
D = CONDUCTOR LENGTH (FT) ONE WAY		12AWG	6530
21.6 = CONSTANT		14AWG	4110
CM = WIRE CROSS-SECTIONAL AREA (CIRCULAR MILS)		16AWG	2580
VD = {(1.524 A) (230FT) (21.64)}/4110 =1.842 V		18AWG	1620
%VD = {1.842 V / 24V} X 100 = 7.676 %		20AWG	1020
REMAINING VOLTS = 22.158			

	FIELD VERIFY — 09/11/13							BLDG 6, 6A FIRE ALARM CALCULATIONS	DRAWN BY LDD	DATE 09/11/2013
									CHECKED BY LDD	09/11/2013
									APPROVED BY MCD	09/11/2013
									SCALE AS NOTED	
									DRAWING NO. 4B06E353_	SHEET
PROFESSIONAL SEAL (IF REVISION, APPLIES ONLY TO REVISED WORK)	ISSUE (PROGRESS, ESTIMATE, BID, CONSTRUCTION, CONFORMED, REVISION, RECORD)	REVISION NUMBER	DRAWN BY LDD	CHECKED BY LDD	APPR'D BY MCD	DATE 09/11/13	REMARKS AS BUILT	UNIVERSITY OF CALIFORNIA LAWRENCE BERKELEY NATIONAL LABORATORY FACILITIES DIVISION	PROJECT NO. 000000	
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